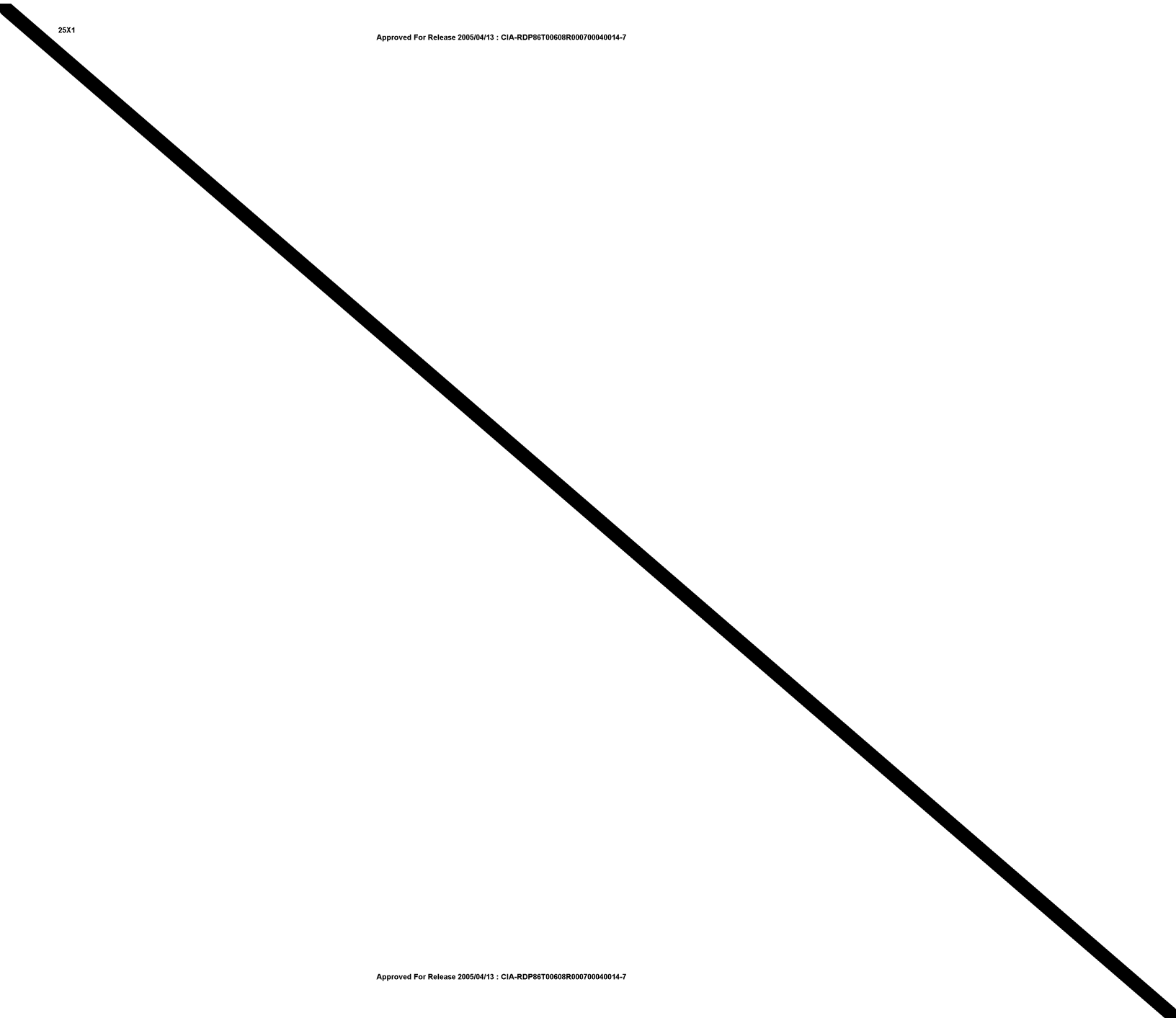


25X1

Top Secret

Weekly Surveyor

25X1

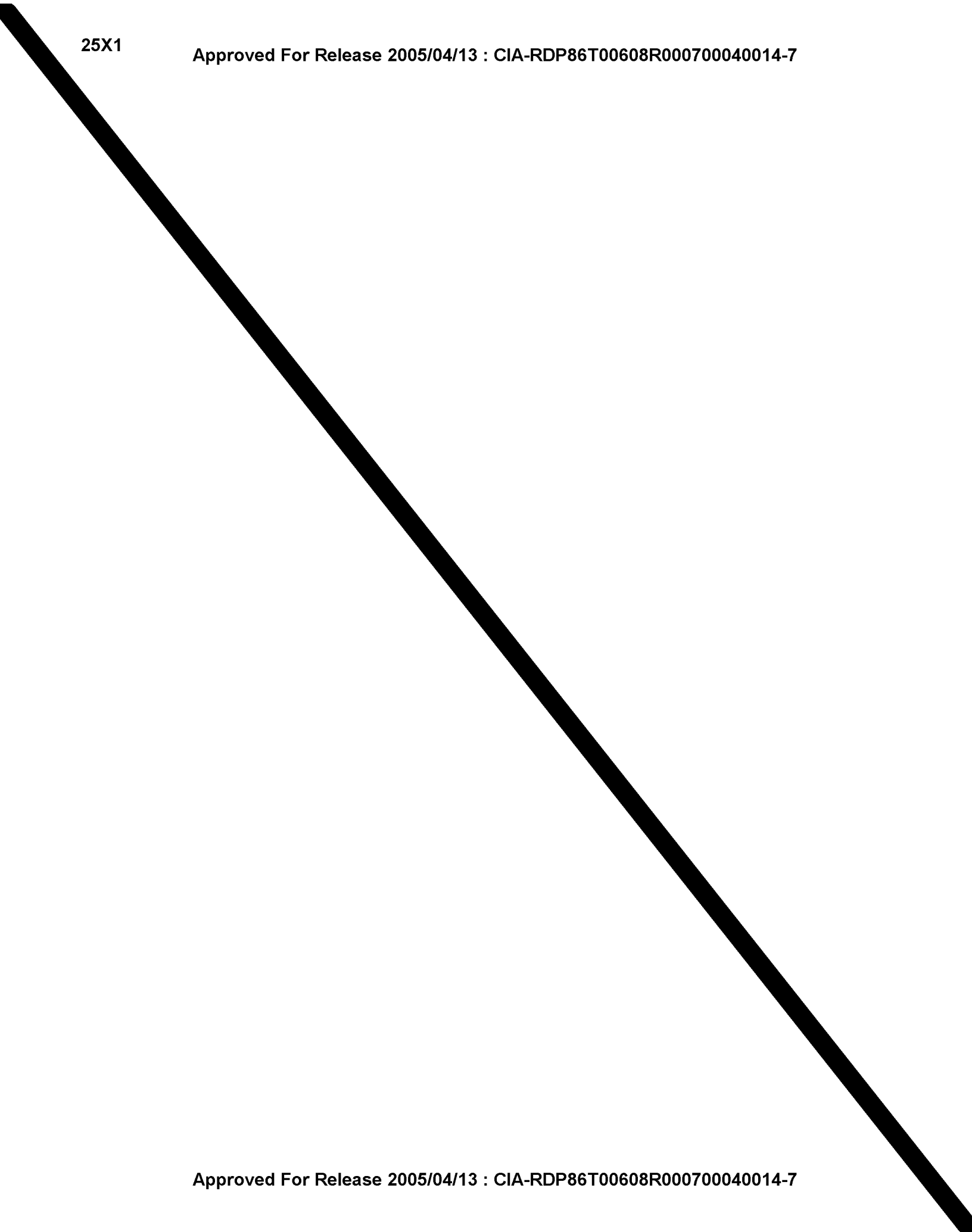
Top Secret

134

TSWS-14/75

7 April 1975

25X1



Approved For Release 2005/04/13 : CIA-RDP86T00608R000700040014-7

25X1

WEEKLY SURVEYOR

25X1 25X1

USSR AND EASTERN EUROPE

Preliminary Soviet results indicate that Mars has an ozonosphere 10 km thick at an altitude of 30 to 40 km with a relative concentration about three orders of magnitude less than the earth's ozonosphere. Heretofore, ozone in the Martian atmosphere has been found only over the polar caps by US spacecraft.

Soviet research interest as indicated in a recent publication on management might give Soviet planners conceptual tools which will allow them to increase the efficiency of their organizations.

25X1 25X1

Hungary is the first CEMA country to announce the development of microprocessors and have designed a system, the AUTER, to be used for automatic design and production of computer circuits.

25X1 25X1 25X1 25X1

25X1

[redacted]

25X1

The Chinese are constructing a large-scale plant for the production of yeast SCP from petroleum. It is likely to employ a two-stage continuous fermentation process growing the yeast on a gas-oil substrate. Little is known about China's domestic needs for high protein animal feed for which SCP is primarily intended. It is possible that the Chinese want to export SCP and this technology to the developing countries.

25X1

[redacted]

25X1

There are indications that the Soviets are employing industrial psychology techniques successfully at the factory level to meet current economic problems.

25X1

[redacted]

WESTERN EUROPE

25X1

A West German firm plans to design a 1100-ton flying freighter designated the Do-P-380. Preliminary calculations indicate that it compares favorably with the modern jumbo jets

25X1

[redacted]

The West Germans view this development as a possible "last chance" for the European aircraft industry which has been plagued by commercial failure of civil aircraft.

25X1

[redacted]

25X1

[redacted]

25X1

25X1

Next 2 Page(s) In Document Exempt

[redacted] 25X1

SPACE

Soviets Report Ozone Layer in Martian Atmosphere: In the Jan-Feb issue of Kosmichyskiye Isslydovaniye (devoted entirely to Mars-4, 5, 6, &7), V.A. Krasnopolsky et al. report the observation of ultraviolet absorption characteristic of ozone from Mars 5 while in Martian orbit. The instrument used was reportedly a two-channel filtered photometer employed in a continuous mode to obtain an ozone concentration versus altitude profile by observing the limb and terminator. The authors' tentative interpretation of the data is that Mars has an ozonosphere 10 km thick at an altitude of 30 to 40 km with a relative concentration about three orders of magnitude less than the earth's ozonosphere. [redacted] 25X1

Comment: Heretofore, evidence of ozone in the Martian atmosphere has been found only over the polar caps by the US Mariner 6, 7, & 9 spacecraft. If the Soviet observations and preliminary interpretations are valid, they significantly limit the possible models of the Martian atmosphere, and by extrapolation should also contribute to the understanding of planetary atmospheres in general including, most importantly, that of the earth. These findings, if verified, will also help the Soviets recover some of the scientific prestige they lost due to the failures of their Mars landing capsules. [redacted] 25X1

25X1 [redacted]

25X1 [redacted]

Next 3 Page(s) In Document Exempt

Approved For Release 2005/04/13 : CIA-RDP86T00608R000700040014-7

25X1

BEHAVIORAL SCIENCES

Soviet Management and Organizational Psychological Research Reviewed: A recent book, "The Social Objective of Management -- The Collective" reviews Soviet achievements in management science and organizational psychology and sociology. The table of contents lists sections devoted to the development of organizations, the definition of an organization, modeling of organizations, the individual and the small group within the organization, and leadership within the organizations. In the foreword, it is stated that emphasis is placed on the informal as well as the formal organizational dynamics.

25X1

Comment: The similarity between the topics treated in this Soviet book and the interests of current US management and organizational research is striking and indicates that the Soviets probably are observing similar phenomena and encountering analogous problems in their organizations and bureaucracies. The research interest concerning organizational dynamics indicated by the publication of this review might give Soviet planners conceptual tools which will allow them to increase the efficiency of their organizations. In addition, this research pursuit may provide Soviet political analysts a background for understanding the dynamics of those organizations and bureaucracies which impact on the diplomatic decisions made by the Western nations.

25X1

25X1

Soviets Employing Job Analysis at the Factory Level to Meet Labor Shortage Problems: Measures being taken to counteract labor shortages in the USSR include instituting financial incentives for factories and combines which increase the efficiency of labor. Wage increases and bonuses are shared among employees of individual enterprises for the creation of schemes which decrease the number of workers necessary to maintain production quotas. A recent article indicates that this incentive system has spurred factory management in the chemical industry to employ the classical industrial psychology analytical techniques of job analysis to increase labor efficiency. In some cases this application of job analysis has resulted in a 30 percent reduction in personnel needs without a decrease in production.

25X1

[redacted] 25X1

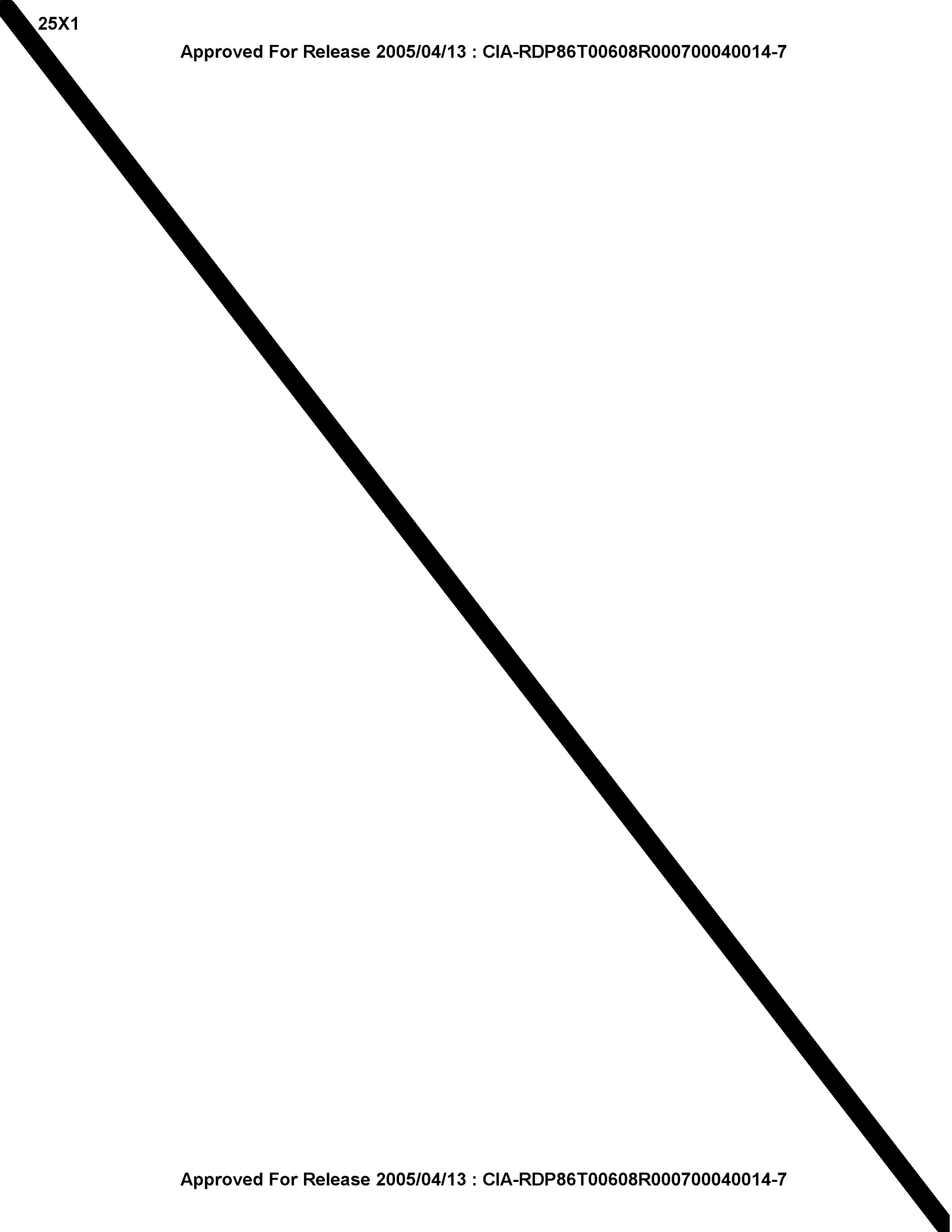
Comment: The results mentioned above are an indication that the Soviets are successfully employing industrial psychology techniques such as job analysis at the factory level to meet current economic problems. Job analysis involves observation of workers performing tasks or groups of tasks in order to identify how wasted movements can be eliminated, work patterns simplified and, in general, how workers collectively and individually can be fitted to their tasks in order to increase production without increasing time or energy expended. One aspect of job analysis familiar to most Americans is time-motion studies which have been employed successfully in the West since before World War II. 25X1

[redacted]

25X1

[redacted]

25X1



Approved For Release 2005/04/13 : CIA-RDP86T00608R000700040014-7

[redacted] 25X1

PHYSICAL SCIENCES AND TECHNOLOGIES

West German Firm Plans Design of 1100-Ton "Flying Freighter": Speaking before the German and French societies for aviation and space travel in November 1974, Claudius Dornier, Jr. of West Germany announced his company's plans to design a 1100-ton cargo seaplane, designated the Do-P 380. The Do-P 380, referred to as a "flying freighter," is to have an overall length and wingspan each of over 300 feet and a fuselage width of about 40 feet. Ten 36-ton turbofan engines will bring it to a cruising speed of about 500 mph. Dornier expects the plane to operate cheaply enough to compete with modern cargo ships. He sees such an innovation as a possible "last chance" for the European aircraft industry which has been plagued by commercial failures of civil aircraft. [redacted] 25X1

[redacted] 25X1

Comment: Preliminary calculations for the Do-P 380 indicate a range of 6 to 8 thousand miles with a maximum payload of about 530,000 lb. The engines to be used probably are high-bypass ratio turbofans, although they have yet to be developed to the thrust required.

These figures compare favorably with those of modern jumbo jets. The Do-P 380 would carry three times the payload of the Boeing 747 the same distance at a comparable speed and, according to Dornier, at a considerably lower cost. 25X1 [redacted] 25X1

Although its payload capacity is an improvement over existing planes, it is only about 1/40th that of modern cargo ships. This fact would indicate a limited number of cost-effective uses.

To date, there has been no indication of West German government or other commercial support; however, the European aircraft industry has been groping for a project such as this which would not compete directly with existing commercial planes. The lack of a US counterpart to this plane may provide the incentive that members of the European aircraft industry need to commit themselves to its development. A project of this magnitude, involving a development cost of about $1 billion, clearly would

[redacted] 25X1

require significant government financial support as well as European cooperation.

NATO may be interested in the Do-P 380 as a heavy military transport. In this role, the Do-P 380 could deliver equipment with less than half the planes now required, or less than half the missions needed with the largest air transports presently available. Other suitable roles might include transportation of perishable cargo such as food or medicine, or delivery of emergency relief supplies to disaster areas. 25X1

[redacted]

25X1

Hungary is First CEMA Country to Produce Microprocessors: Scientists of the Research Institute of Telecommunications

25X1

[redacted] 25X1

(Tavkozlesi Kutato Intezet) worked out, in cooperation with several technical computing experts, the system "AUTER" (Automatic design and realization) to be used for automatic design and production of computer circuits.

After the circuits are constructed, the superfluous connections are discontinued by burning. The micromemory bank of the R-10 computers also are constructed from burned circuits. [redacted] 25X1

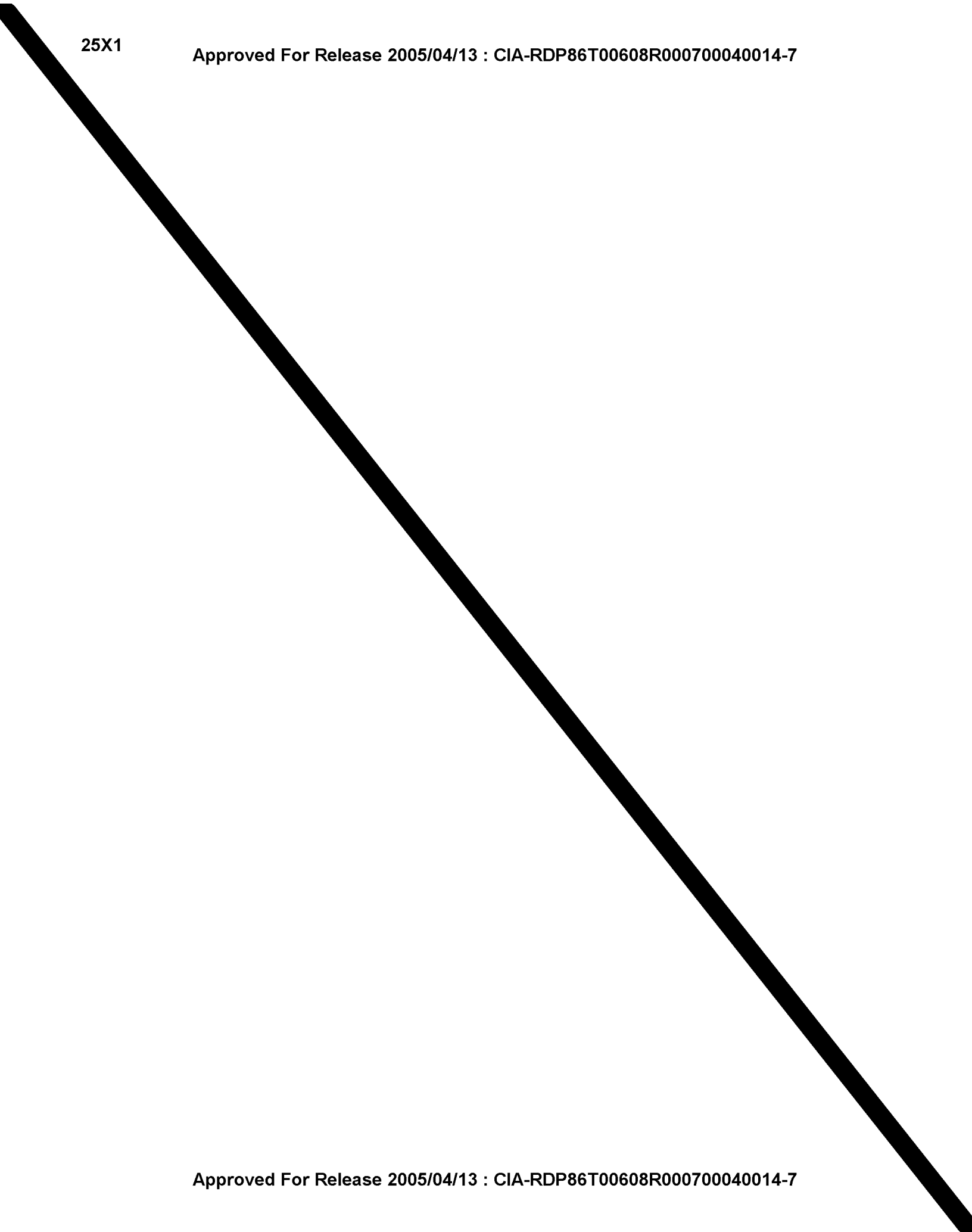
Comment: Hungary is the only CEMA country to have announced development of microprocessors and the AUTER system appears aimed at supporting this work.

Automated design offers the only practical way to satisfy a wide variety of potential customers for microprocessors because each customer may have a different requirement. Programmable read-only memories are critical elements of microprocessors and the elimination of superfluous circuits by electrical means (burning) is the usual way of making such memories using integrated circuits. [redacted]

25X1 25X1

25X1

[redacted]



Approved For Release 2005/04/13 : CIA-RDP86T00608R000700040014-7

[redacted] 25X1

AGROTECHNOLOGY AND FOOD RESOURCES

Chinese are Building Single Cell Protein Production Plant: The Institute of Organic Chemistry in Shanghai has a pilot plant producing single-cell-protein (SCP) from petroleum. A full production plant is expected to become operational shortly. The Chinese SCP is to be processed into animal feed as a high protein additive. It also is claimed that petroleum-derived SCP will be used by the Chinese as food supplements for human consumption. [redacted] 25X1

Comment: This is the first indication that the Chinese are constructing a large-scale plant for the production of yeast SCP from petroleum. This plant will likely employ a two-stage continuous fermentation process growing the yeast (Candida lipolytica) on a gas-oil substrate. Little is known about the extent of Chinese domestic need for high protein animal feed for which SCP is primarily intended. It is possible that the Chinese want to export their products and technology to the developing countries.

Scientists from this institute have been researching SCP technology since 1961. In 1967, they publicized the completion of a pilot plant in Shanghai which had a reported capacity of 20 tons of SCP per day. This product was used extensively in feeding tests on pigs and chickens. More recently, two Chinese scientists reported pilot plant operations using both gas-oil and normal paraffin substrates. They also gave encouraging results for feeding their SCP product to animals. They claimed that a possible advantage of using gas-oil was that the process yielded not only SCP, but dewaxed oil and other valuable byproducts such as ergosterol (provitamin D) and fats which were easily isolated from the alcohol fraction after the purified yeast was removed. Western scientists have not pursued this approach. [redacted]

25X1 25X1

25X1